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EXAMINER	
LEONARD, MICHAEL L	
ART UNIT	PAPER NUMBER
1796	

NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/573,345	DREISORNER ET AL.	
	Examiner	Art Unit	
	MICHAEL LEONARD	1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 February 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *7-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *7-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 7-8, 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,433,034 to Leenslag et al.

As to the claims, Leenslag discloses in the preparation of a polyurethane foam reacting polyisocyanates and two different polyols (Abstract), wherein the two reacting compositions (polyisocyanates and polyols) are in separate batches (Column 8, Example 1). Leenslag further discloses the isocyanate reactive components (2) and (3) wherein component 1 is a polyol having an hydroxyl number of at least 150 mg KOH/g and an average nominal hydroxyl functionality of from 2 to 8, and component (3) is a polyol having an average hydroxyl functionality of from 10 to 150 mg KOH/g and an average nominal hydroxyl functionality of from 2 to 6 (Column 4, lines 35-45). Leenslag further discloses as component (3) polymer polyols, which are the reaction product of styrene and acrylonitrile in polymeric polyols, such as polyether polyols (Column 5, lines 55-62). Leenslag discloses reacting the pre-mixed polyol component with the polyisocyanate component to form a polyurethane foam using a Heindolph mechanical mixer (Example 1, Column 7, lines 18-25).

At the time of the invention it would have been obvious to a person of ordinary skill in the art that the polyol mixture was mixed in a continuous manner in the Heindolph mixer in order to create an homogenous mixture of polyols prior to reacting the isocyanate reactive components with the polyisocyanates which are contained in a separate batch as disclosed by Leenslag. The motivation to mix all the polyols in a continuous manner prior to reacting with the polyisocyanates would be to create an homogenous mixture of polyols so that the reaction can proceed as planned. For instance, the –OH groups of the mixture of polyols would react according to how stereochemically hindered the –OH groups are in the mixture. The motivation would have been to create a final polyurethane product with a specific structure in order to create the desired foam properties. The claimed continuous operation is obvious in light of the batch process as disclosed by Leesnslag. The case law is directed to a method of producing a cementitious structure wherein a stable air foam is introduced into a slurry of cementitious material differed from the prior art only in requiring the addition of the foam to be continuous. The court held the claimed continuous operation would have been obvious in light of the batch process of the prior art. In the prior art above, Leenslag discloses a batch process containing a homogenous mixture of polyols (Slurry of cementitious material) and another batch containing the polyisocyanate (stable air foam). The court upheld that the batch process wherein the homogenous mixture of polyols is introduced to the polyisocyanate to create a final polyurethane product would be the same as if the prior art were to say the homogenous mixture was added continuously. (See In re Dilnot, 319 F.2d 188, 138 USPQ 248).

Claims 7, 9, 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,331,039 to Blum et al.

As to the claims, Blum discloses a mixture of at least two polyol components mixed in a batch separate from a polyisocyanate component. Once combined the two components form a polyurethane binder (Abstract). The two polyol components may contain a polyester polyol and a grafted polyester polyol with hydroxyl values in the range of 10 to 500, which falls within the claimed range of the instant application. Blum further discloses that the polyesters may be formed from monocarboxylic acids having a molecular weight of 112 to 340 or polycarboxylic acids having a molecular weight of 98 to 600 and difunctional or higher alcohols having a molecular weight of 62 to 200 (Column 5, lines 2-12). The molecular weight ranges fall within the claimed C_{2-12} dicarboxylic acid and C_{2-12} polyhydric alcohols of instant claim 14.

At the time of the invention it would have been obvious to a person of ordinary skill in the art that the polyol mixture was mixed in a continuous manner during the batch process as disclosed by Blum, before adding the polyol mixture to the polyisocyanate in order to create an homogenous mixture of polyols. The motivation to mix all the polyols in a continuous manner prior to reacting with the polyisocyanates would be to create an homogenous mixture of polyols so that the reaction can proceed as planned. For instance, the –OH groups of the mixture of polyols would react according to how stereochemically hindered the –OH groups are in the mixture. The motivation would have been to create a final polyurethane product with a specific structure in order to create the desired foam properties. The claimed continuous

operation is obvious in light of the batch process as disclosed by Blum. The case law is directed to a method of producing a cementitious structure wherein a stable air foam is introduced into a slurry of cementitious material differed from the prior art only in requiring the addition of the foam to be continuous. The court held the claimed continuous operation would have been obvious in light of the batch process of the prior art. In the prior art above, Blum discloses a batch process containing a homogenous mixture of polyols (Slurry of cementitious material) and another batch containing the polyisocyanate (stable air foam). The court upheld that the batch process wherein the homogenous mixture of polyols is introduced to the polyisocyanate to create a final polyurethane product would be the same as if the prior art were to say the homogenous mixture was added continuously. The claimed continuous operation is obvious in light of the batch process as disclosed by Blum (See In re Dilno, 319 F.2d 188, 138 USPQ 248).

Claims 11 and 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,433,034 to Leenslag et al. that has been applied to claim 7 above in view of U.S. Patent No. 6,670,406 to Hofmann et al.

As to the claims, Leenslag discloses the use of a Heindolph mechanical mixer, but does not refer to the mixer as a static mixer.

Hofmann discloses in the preparation of polyol mixtures the use of static mixers and further discloses that depending on the geometry of the orifice, two different kinds of force may act on the product in this process. Either the stream of product is accelerated so much that the flow in the nozzle is turbulent of in the case of a laminar

flow, a so-called extensional flow forms in the nozzle. Both Hoffmann and Leenslag disclose mixers for the preparation of polyol mixtures. As a result, it would have been obvious to a person of ordinary skill in the art to use the mixers disclosed by Hoffman for the polyol mixtures disclosed by Leenslag as motivated by the fact that suitable mixing units are distinguished by the fact that, by reason of their geometry, they introduce a high local energy density into the product in the form of energy flow. Since high pressures are frequently employed for this task, these mixing units are also designated as high-pressure homogenizers (Hofmann, Column 3, lines 59-67). The motivation would have been to ensure an homogenized mixture of the polyols before introduction to the isocyanates in the production of polyurethane products.

Response to Arguments

Applicant's arguments with respect to claims 7-12 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Further, the initial claims required a mixture of polyols that was stated in the preamble of the first claim and the body of the claim only required mixing of at least one polyol. If the body of the claim fully and intrinsically sets forth all the limitations of the claimed invention, and the preamble merely states, for example, the purpose or intended use of the invention, rather than any distinct definition of any of the claimed invention's limitations, then the preamble is not considered a limitation and is of no

significance to claim construction (See MPEP 2111.02). The initial rejection was made on these limitations. As a result, of the amendment to the claims to include at least one graft polyol and a second polyol a new ground of rejection was needed. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

/MICHAEL LEONARD/

Examiner, Art Unit 1796

/Randy Gulakowski/

Supervisory Patent Examiner, Art Unit 1796